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Carbon Dioxide Management on the International Space Station

The International Space Station (ISS) is a manned laboratory operating in orbit around the Earth that was built and is currently operated by several countries across the world. The ISS is a platform for novel scientific research as well as a testbed for technologies that will be required for the next step in space exploration. In order for astronauts to live on ISS for an extended period of time, it is vital that on board systems consistently provide a clean atmosphere. One contaminant that must be removed from the atmosphere is carbon dioxide (CO₂). CO₂ levels on ISS are higher than those on Earth and can cause crew members to experience symptoms such as headaches, lethargy and mental slowness. A variety of systems exist on ISS to remove carbon dioxide, including adsorbent technologies which can be reused and testbed technologies for future space vehicles.

Katie earned a B.S. in Mechanical Engineering and a M.S. in Biomedical Engineering from Washington University in St. Louis. She currently works for Cimarron, Inc. in the Flight Operations Directorate at NASA Johnson Space Center (JSC). As an ISS ETHOS flight controller, Katie is responsible for operating the environmental control and life support systems and the internal thermal control systems on ISS, as well as leading the team through any emergencies that may occur.